

Zero Energy Ready on Long Island

United Way of Long Island's journey towards sustainable housing shows that ZERH homes can be available to more than just the housing elite

By Jamie Van Mourik

United Way of Long Island is on a mission to reduce energy poverty, one high-performance home at a time.

In 2019, retired Army Sergeant Brian Pullis moved his family into a certified Zero Energy Ready Home built by the nonprofit. The three-bedroom home uses an ultra-efficient electric heat pump for heating and cooling; a 9.9 kW rooftop solar array offsets the family's electric use most of the year. It was built partly by veterans through VetsBuild, a construction training program hosted by United Way of Long Island (UWLI) that launched Pullis' own career as an HVAC service technician.

"We are committed to making net zero available to people who need sustainable energy savings the most," says UWLI Senior Vice President for Housing & Green Initiatives Rick Wertheim.

Largely suburban, Long Island, New York is home to the Hamptons, but there are also pockets of poverty. Many older residents live in homes in desperate need of energy upgrades; many renters live in substandard and unpermitted units in garages and basements.

"We live in a market that has one of the highest costs of living in the country," says Wertheim. "On top of that, we have one of the highest utility rates in the country."

For Pullis, the promise of consistently low utility bills gave him the confidence to move forward with the sale of his new home. Most months, he only pays the utility tax charge, and his bills rarely exceed \$100. The family saves approximately \$3,200 a year in utility costs.

A Zero Energy Ready Home (ZERH) is certified to meet the federal government's most rigorous requirements for home performance, including the standards of two other federal programs: U.S. Environmental Protection Agency's Indoor airPLUS and ENERGY STAR. ZERH Version 2, launched in late 2022, supports the U.S. Department of Energy's (DOE) goal of achieving low-to-no carbon emissions in all new home construction by 2035; new requirements include enhanced building envelope performance and several new provisions for electric-ready homes, such as dedicated circuits for electric vehicle charging stations and electric heat pumps.

United Way of Long Island built its first certified ZERH home in 2013. Since then, the non-profit has built over 30 ZERH homes and has been recognized with eight Housing Innovation Awards. Sev-



Jaime Van Mourik is the director of the U.S. Department of Energy's Zero Energy Ready Home program.

eral have been featured as part of the DOE's "Tour of Zero," an annual showcase of exemplary certified ZERH projects.

UWLI has experimented with several approaches, including structural insulated panels, insulated concrete forms and advanced framing. Their ZERH homes are so efficient that they can achieve net-zero even with electric vehicle charging, essentially removing the cost of transportation from family budgets. The homes not only address an urgent need for accessible housing, they help demonstrate that net-zero need not be exclusive to the elite custom home market.

"ZERH homes can come in all shapes, sizes, and price points," says Sam Bowles, with DOE's ZERH program. "The value of a ZERH home is not in the use of expensive technologies and systems, but in the construction details outlined in the program requirements." Taken together, these details ensure an efficient, durable and healthy home.

Scaling up such homes requires a deep pool of skilled labor at a time when construction trades in the U.S. are losing ranks. Nearly a quarter of all construction workers are over 55, and skilled career professionals are retiring.

"Young people are not as interested in going into the trades," says Wertheim. "It's a systemic problem across the country, in everything from HVAC to iron workers."

To address this urgent need, UWLI runs three signature programs out of their E3 SmartBuild Training Center in Deer Park, Long Island. VetsBuild, the program that launched Pullis' career, serves returning veterans from Iraq and Afghanistan, while YouthBuild serves low-income young adults who are out of school but unemployed. A newer program called Power Up Academy emphasizes high-performance construction, energy retrofits and renewable energy. Last year, about 350 people took part in the programs.

The more stringent standards of ZERH V2 underscore the need for skilled high-performance home contractors and tradespeople, while pushing builders to achieve ever higher standards.

"The ZERH program has always served as a proving ground to what home performance should be," says Bowles. "Our partners are truly the boots on the ground fighting against climate change while also delivering more efficient, resilient and healthier homes to American homebuyers." 

